DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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RAYNOLDS & NOURSE, *Proprietors.* OFFICE, QUINCY HALL, BOSTON. S. W. COLE, *Editor.*

WORK FOR THE SEASON.

March is a busy month, as the farmers not only find that it brings its common share of work, but this is the peculiar season for preparation for the campaign that is about opening.

Fuel.—Every farmer that has not already procured sufficient fuel to last him one year, should attend to it immediately, and if for want of snow or other causes it cannot be hauled at present, let it be chopped and split, that it may season.

Care of Stock.—If cattle and horses usually used for labor, have but little to do at this season, as is the case with some farmers in New England, they should be kept in good condition, and have moderate exercise, as high feeding and idleness produce weakness, and engender disease.

Animals with young should be kept in good, but not high condition. To keep them in very high flesh is as dangerous as the opposite extreme, poverty. If they are fed on dry food, and become bound or costive, a few roots, or bran mashes, will correct the evil. But they should have but few roots, as a liberal supply will cause a flow of milk, prematurely. After a cow has calved, it is better not to give her cold water. An old method and a good one of preparing the first pail of water, is to throw into it a shovelful of embers. This will warm it, and give it a slight alkaline quality, which is useful. It is better to give warm water for two or three days, especially if the animal appears to be rather feeble. The same course in regard to sheep would be a good one. Frequently for want of attention, the ewe is in a feverish habit, which greatly reduces the quantity as well as the quality of the milk.

Swine require particular attention; their house should be dry, clean and warm. They should have access to pure soil, such as yellow loam. A little charcoal is very acceptable to them, and a change of food is desirable. Those with young should be separated from others several weeks before farrowing; they should have a plenty of room and a good shelter. Also a moderate, but not a large quantity of litter. To prevent a sow from devouring her offspring, give her a comfortable house, and a chance to take exercise in the open air, and supply pure loam, charcoal, and occasionally raw apples, potatoes, carrots and parsneps. In fine, keep her in good health. When it becomes warm, let her run at large.

Implements.—Many farmers make and repair their own coarse implements, carts, &c., and this is the proper time to attend to these things, that they may be ready when the time for action arrives, which is near at hand. The success of a farmer depends much on having all his tools ready in due season, and having the best of every kind. With a good implement a man can do twice as much labor as with a poor one.

Seeds, &c.—Every farmer and gardener who intends to improve their crops by collecting superior seeds, tubers, and plants, should attend to this now, that everything may be ready in due season, that there may be no loss by delay in waiting for these things in the season of planting, or loss of time in procuring them in a more busy season.

Trees and Scions.—Cultivators should look over their notes and memorandums and see what they want in this line. Scions may be cut at any time in this month. Lay them in a tight moistened box, with moist saw dust or moss at the bottom; or moist mats or cloths will answer. Lay moss, a cloth, or mat, moistened, over the scions, and set the box in a cool place in the cellar; and if dark, the better. Do not apply water to the scions, as they are often injured by keeping them too damp or wet.

Preparing Seeds.—It is rather late to prepare seeds of fruit trees that have been kept dry, but it may be better late than never. If apple, pear, or quince seeds are moistened, and put into damp loam, and put where they will undergo the changes of freezing and thawing, which are common in this month, they will probably vegetate, though

hot so readily as those prepared in season. When seeds are put into moist loam or sand early in winter they do not need to freeze. Soak peach stones a few hours and then put them into moist loam. Crack the stones, and take out the seeds, at the proper time, and plant as you would corn.

Catterpillars.—By examining the lower branches of apple trees, near the extremities, on a bright morning, the eggs of catterpillars may be seen in clusters on the branches, which may easily be taken off with the fingers. They should be destroyed. By a crook, the length of a common cane, almost every limb on which they are found may be drawn down within convenient reach.

Pruning.—We consider this a very unfavorable season for pruning, and we introduce this subject for the purposes of a caution, as so many select this month for this purpose. Very small twigs may be cut from trees at any season in the year, but large limbs should not be cut off in spring; the sap oozes out, the wood turns black, and often cankers and decays. If grape vines were not pruned in fall, the sooner they are attended to in spring the better, on account of their being liable ta bleed when pruned late.

Buying Hay.—It is a hard case for the farmer to buy hay, but he must do it sometimes. Hay that is only moved a mile or two is worth much less than if fed directly from the mow. To avoid this evil as far as possible, move hay on a damp day, and pack it down hard in a close mow, and in using it, take the hay from one side, or pull it out so as not to continually expose a new surface to the air. We have known some farmers to pull all of their hay out at the side of the mow, with a hay-hook, as it would spend better from less exposure.

Fences should be kept in good condition around fruit trees, mowing fields, and woodlands, as cattle are very destructive to them in the spring. They prune trees too roughly, and sometimes too much; their poaching upon the soft grass lands is more injurious than their feeding; and in the woodland they devour the most luxuriant shoots.

Bees should be kept shaded until the snow is off, and it is sufficently warm for them to go forth with safety. If the sun shines on the hive it will revive them and invite them out when too cold, and as they meet the cold blast they will fall on the snow or cold damp earth, and they cannot recover. In this way millions are lost.

Sowing Grass Seed.—When the land is in good condition this is a good season for sowing clover seed. It may be sowed on the bare ground, or on the snow, if the land is so level, and free from washing that it is not liable to be carried out of place by water. Herds grass and red top sowed in a good soil, in March, will generally produce a pretty good crop the first season; but it is better to sow these grasses early in fall. If that favorable season has been neglected, it is best to sow now.

PLANT THE BEST.

It should be an invariable rule with every cultivator to plant and sow the best varieties of vegetables. It costs no more to cultivate a valuable kind than a poor one. In nearly all the crops that we cultivate, there are various kinds, possessing different properties, and it is important that the farmer get the best kind that is adapted to his soil and situation.

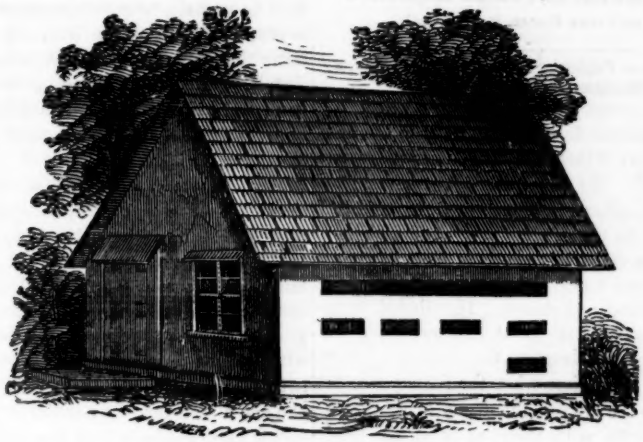
In the beginning, a high price may be demanded for a valuable kind of grain, or other vegetable; but a small quantity may be purchased to begin with, and soon it will be so extended, that the extra cost will hardly be perceptible. Allowing that one dollar extra be paid for a half peck of very superior grain. In two years it would probably produce 100 bushels; and thus the extra cost would be only one cent on a bushel, and, perhaps, far better than this, there might in consequence of the excellent variety, be ten per cent. added to the crop, which would pay ten or twenty times the extra cost, besides the superior value of the 100 bushels.

A great deal is said of the potato rot; and if nothing was said on the subject, every farmer would know the great destruction of crops and the heavy loss by this malady from his own experience and observation. Now every cultivator of this once valuable root should see what he can do by way of an improvement. He should procure several varieties of what appear to be the best and the most hardy against the disease. In this way, he may save about all his crop in common seasons of the rot; and when it is very severe, as was the case last year, he might save enough for his own use, and a surplus to sell at a high price. A mere trifle expended in this way will supply a farmer in a short time with all the seed he needs for his farm.

We have many varieties of Indian corn. Some early, others late; some with large ears and large stalks, others with compact ears, small cobs, and fine fodder. Some varieties contain a large amount of oil, and are good for fattening; others abound in starch, and are superior for some dishes of food. Every farmer should procure the best kinds, such as are well adapted to his climate and soil, and to the purposes for which he intends them.

In beets, carrots, onions, and parsneps; in squashes, pumpkins, in cucumbers and melons; finally, in almost every species in the extensive catalogue of vegetables there are varieties possessing different qualities. They differ in quality, production, earliness, &c.; and it is of great importance to select the best, regarding the adaptation of the kind to the purposes of the particular objects of the cultivator.

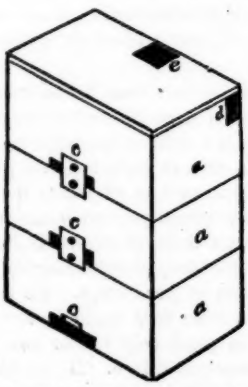
The present is a suitable time for farmers to examine into this subject, and furnish themselves with the best seeds in due season, for soon will come the time for action, and there will not be so convenient an opportunity to attend to this business.



APIARY, OR BEE-HOUSE.

GILMORE'S PATENT APIARY.

The house may be made plain and cheap, or ornamental, as the proprietor desires. It is eight or ten feet wide and of any desired length. The cut of the house represents the front open; but it may be closed when necessary. The hives set back about their width from the front. The black spaces in front show the openings for the bees, corresponding with the doors in the hives. At the end of the house is a door opening to a passage in the rear of the hives, for the purpose of inspection, feeding, applying or removing boxes, &c.



FRONT VIEW OF THE HIVE.

This cut represents a front view of the hive, which is made in three equal sections, with slats between them, at the upper part of each section, about the width of laths, and one-fourth of an inch apart. The slats sustain the honey in the under section, when the section above is removed. The object of these sections is to allow of the advantage of removing the top section, when the hive is nearly full, which section in such a case is generally well filled with honey, and contains but few bees, and supplying the deficiency by adding an empty section underneath. In this way surplus honey may be obtained, the bees kept constantly at work without swarming, and they are supplied with new comb, which is very important, as bees are more healthy and active in new comb, and the young brood is larger and more vigorous, as old combs becomes partially filled from every new brood.

These hives are so constructed and arranged that bees may be conducted from a hive at any section on either side, and thus form new colonies without swarming. They may also be conducted from the upper story or tier of hives down through the floor into a hive below. Or if swarms in the usual way are wanted, the bees will swarm by limiting them as to room.

In the rear of the hives, in the house, boxes are attached to the hives, which can be removed conveniently, and empty ones put in their place. At the same place, arrangements are made for feeding the bees, so that robbers cannot get the honey or food offered them, unless they come through the hive.

This apiary is so arranged that it seems to afford every desirable advantage for keeping and managing bees, and it can be done with the greatest convenience.

Mr. Gilmore has had many highly favorable testimonials from many intelligent persons who have tried his plan of managing bees; and from agricultural socities and other associations he has received liberal premiums. He received a premium of the N. Y. S. Agricultural Society, at their show at Albany, and he has received several premiums from the Am. Institute.

Mr. W. A. Brigham offers rights of this Apiary, for certain sections of country, as may be seen in our advertising columns.

FIFTH AGRICULTURAL MEETING

At the State House, Feb. 11, 1851.

Lieut. Governor Cushman in the Chair,— Subject, "Meadow and Grass Lands."

The chairman made a few appropriate remarks on the first start of these agricultural meetings, and on their utility. He also made some general remarks on agricultural improvements. He said that in his part of the State, ploughing was done better, in consequence of having superior ploughs; crops were better and more abundant, and housewives made better butter and cheese. He alluded to agricultural papers and the great influence they had in enlightening and elevating the farming community. There was a time when the farmer was not respected like the lawyer, the doctor or merchant, but now he ranks with them, or is at the head. This results from the education of farmers as well as other classes. The motto now is, "improve the soil and the minds." The chairman then announced the subject, and made some remarks on its importance, and suggested various topics for consideration.

Hon. Mr. Gray, of Boston, as one of the trustees of the State Agricultural Society, proposed that Dr. Brooks, who had studied the veterinary science in Europe, would deliver two or three lectures on the anatomy of the horse before these meetings, if agreeable. The subject was referred to the committee of arrangements.

Hon. Mr. Brooks, of Princeton, said that his experience was confined to common grasses. He had tried lucerne, but it failed, as the frost threw it out of the ground. We have herds grass, red top, and red and white clover, and we cannot probably make any improvement by the use of other grasses. It is said that we can get two crops of orchard grass, and we can get two crops of herds grass or southern clover, but there is no advantage in it. One good crop is sufficient. The second crop is not valuable. We hear of large crops of three or four tons of hay to the acre, but they are not profitable, as the hay is not so good. Two tons to the acre is sufficient, and as much as is profitable. More money can be made by raising two tons of hay to the acre than by larger crops. Grasses grow naturally in our pastures, and they are of good quality. In Worcester county, plaster will generally produce a good crop of clover. Nothing is better for a pasture than white clover. It fattens well, and makes rich milk. Herds grass is better than clover for hay.

Rev. Mr. Sanger, of Dover, said that the value of grass was not in proportion to the quantity. In large crops the quality was not good. He was pleased that farmers' wives made better butter than formerly, and he would enquire whether this was the case with farmers' daughters, as there had been some complaint in this respect.

Mr. Brooks said that you might feed crops, as well as animals, to a certain extent with profit, but beyond that there was a loss. A pig will grow faster than he eats up to eight or nine months old, then he will eat faster than he grows. A calf forced to a great growth is not a valuable animal. Trees are less valuable for a very rapid growth in the nursery.

Mr. Parker, of Framingham, said that he purchased a farm in that town, on which there was a pasture, which had been ploughed, manured, tilled, and laid down to grass without being cropped. His neighbors said that it would fail, but by the use of plaster he had kept it in excellent condition; yielding abundant crops of white clover. He agreed with the gentleman from Worcester county, that two tons of hay should be the maximum crop, and one and a half-ton the minium crop. No farmer should cultivate more land than will yield one and a half to two tons to the acre. He said that his land was an elevation, and a moist, deep, rocky soil. He supposed that he sowed 300 lbs. plaster to the acre.

Hon. Mr. French, of Braintree, remarked that near the sea, where cattle do not need salt, plaster will not generally do any good, but fifteen or twenty miles back, where cattle need nore salt, plaster is generally useful. He thought our whole system as to grasses was wrong; we ought to plough more, manure less, and let our lands lie to grass only one or two years, and then repeat a rotation of crops. He recommended half a bushel of herds grass, a bushel of red top and 6 lbs. of clover to the acre.

Mr. Andrews, of Montague, proposed for consideration, that in his section, plaster was not good for a series of years, without the application of other fertilizers.

Hon. Dr. Gardner, from Bristol county, said that the gentleman from Worcester county cautioned farmers against raising too large crops of grass, but in his section of light soils the great difficulty was to get two tons of hay to the acre. The best modes to obtain good crops, are to apply compost manure, and plough deep. He did not subsoil, but he regarded deep ploughing highly important to the production of good crops. He could not perceive how a large farm could be managed, if the land was in grass only one or two years, as it would be mostly in tillage. He would recommend taking up no more land than can be managed well. He recommended more grass seed to the acre than had been named. He would sow one and a half bushels of red top, 16 lbs. of clover, and more than half a bushel of herds grass. In his section ashes were the most profitable manure for grass lands, and the leached was equally as good.

Hon. Mr. Sprague, of Duxbury, said that his land was dry, and he was troubled for good pasturage. He cut his hay on a meadow. In the fall he turns over the sod, manures well, and sows down

to grass. Sometimes he sows as late as October. If he sees the grass start well, it succeeds, and he generally gets two tons an acre the next season. He used seaweed or kelp as manure for grass lands. He had found no benefit from plaster.

Mr. Brooks said, that by raising large crops he had reference to farming with high manuring.

Hon. Amasa Walker, of Brookfield, observed that he purchased a piece of pasture land that had probably been pastured 75 years, without manure, and it was nearly exhausted. He applied plaster, and it brough in white clover, and produced fine crops. The farmers in New Braintree apply a little plaster to their pastures annually, and they have the very best of pasturage. Plaster costs but little, and it should be applied several years in succession.

Mr. Proctor, President of the Essex Agricultural Society, said that in Ipswich, the main business of farmers was to raise hay, and in some seasons 2000 tons were sold from that town; whether it was all raised there he could not tell. In that town the best farmers harrow their grass lands after mowing and sow grass seed. Others subsoil their lands, without disturbing the surface, and then manure and sow to grass. In his neighborhood, the late Mr. King was very successful in improving light lands. He turned them over, manured, and re-seeded. This he often repeated. He got one and a half or two tons to the acre, and his light lands became very profitable. About Marblehead, manure from the beach was used for grass lands, with good effect. They produce continuous good crops without tilling. Mr. Stone, of Marblehead, fed four cows for three months on five acres of pasture land, and he received a premium for his butter. Plaster had been applied in Nahant with good results.

Subject for the next evening, "The best kinds of Cattle for New England."

As the President, in his remarks on the various agricultual journals, named several among us, and spoke of their extensive circulation and utility, without ever alluding to our publications, while he spoke of others with a much more limited influence, we would remark that we consider it highly desirable for a public speaker to be sufficiently acquainted with his subject to do it justice, avoiding partiality or neglect.

We had a specimen of a similar character last winter, in which a publisher's statement of his list was exhibited at the meeting, and we have known publishers to represent their list several thousand higher than reality.

☞A London ship-builder challenges the world to build a swift sailing vessel. He does not care what the tonnage may be. The challenge has been published in the London Times. Some of our ship-builders will surely take him up and beat him out and out.—*Scientific American.*

AGRICULTURAL QUESTIONS.

At the second Legislative Agricultural Meeting the following resolve was passed.

Resolved, That a committee of two be appointed, whose duty it shall be to prepare appropriate questions on the subjects successively discussed in the Legislative Agricultural Meetings, which the secretary shall cause to be published from week to week for investigation by the farmers of the commonwealth, or for discussion at the agricultural meetings next year.

Under this resolve Prof. W. C. Fowler, of Amherst, and Gen. Caleb Cushing, of Newbury, were appointed a committee to prepare the questions.

Agreeably to the preceding resolve, the committee have forwarded the following questions.

No. 1.—Subject, *The Potato Disease.*

I. Does the disease extend to the whole race or only to that part which has been cultivated?

This question can be answered by investigating the state of the plant in those regions where it is said to grow spontaneously. If the desease is constitutional and extends to the whole race, then there would seem to be no remedy. If it extends only to the cultivated part, then the proper way will be to obtain seed from those plants which grow spontaneously.

II. If the disease pertains only to the cultivated portion of the race, does it extend to the whole of that portion, or only to certain varieties? If certain other varieties are free from the disease or less liable to it than others, then they should be carefully sought and planted.

III. As a remedial process, has the experiment been fully tried of planting seed from several successive generations of the plant, instead of the tuber?

IV. As witnessed from year to year does the disease commence with the vines, or with the tuber?

V. Is the disease attributable to an atmospheric influence analogous to that of malaria in the human race? and if so do some exposures suffer more than others?

VI. Has the mode of cure recommended by Baron Liebig and D. Klotzsch, namely, that of cutting or pinching off the top of the vines, been thoroughly tried in our country?

VII. What are the effects of charcoal, sulphur and salt when used as remedial agents?

VIII. Does climate have an influence in some cases to prevent and in some to produce disease?

IX. Does excessive dryness or excessive moisture, whether in the ground or in the cellar, have an influence to produce disease?

X. Is the disease attributable to some soils rather than to others? and to some manures rather than to others?

XI. Is the plant subject to different diseases or to different types of the same disease?

XII. Have experiments been made as to the val-

ue as esculents and the economy of production of those tubers, which are used in common with the potato in its native climate, such as the yam, yucca and the camote (or sweet potato)? And what is the result of experiment on that subject?

No. 2.—Subject, *Thorough Draining and Subsoil Ploughing.*

I. What experience have you had of the benefits of draining land, and over what period has it extended?

II. What soils, and under what general conditions of altitude and quality, have you experimented upon?

III. What depth, width of trench, and space between drains, does your experience recommend; and what *material* for forming drains would you approve—keeping cheapness and eligibility in view?

IV. At what price, per rod, did you sink your drains; and are you aware whether any cheaper or more speedy mode could be adopted—and, if so, what?

V. What has been the *general* and what the *special* effect of your experiments—in modifying the influence of climate, and in enhancing production?

VI. What are the comparative advantages of draining *thoroughly*, over *imperfect* drainage; also in contrast with its neglect?

VII. Can you bring reliable statistics to bear on the question of profit or loss from draining?

VIII. What have you found to be the comparative advantages of covered drains and of open drains?

IX. What soils derive the greatest advantage from subsoil ploughing?

X. What is the proper depth for subsoil ploughing; and how often in the progress of years should the process be repeated?

XI. How do you account for the fact, that subsoil ploughing is beneficial?

XII. Does the depth to which the common plough should go depend at all upon the subsequent use of the subsoil plough?

For the New England Farmer.

IMPROVEMENT OF WET LANDS.

Mr. Cole:—The subject of draining is almost entirely overlooked or neglected by most farmers in this country. Having of late taken the subject under consideration, it has induced me to examine many English writers on the subject, and compare their views and practice with those of our own country. I have come to the conclusion that the best and most fertile lands in this country are laying waste for want of draining. In travelling through the several counties, I have observed the high lands cleared of trees and brush, while low lands and swamps are totally neglected; in many cases where they can be drained with little or no expense.

The way draining should be conducted, it will in my opinion pay well for the labor, as well as contribute an abundance of new and fertile soil to the owner, wherever there is a swamp that has an outlet sufficiently low so as to have fall enough for the water to run off. The draining may be done in this manner; first, dig a ditch along shore on each side of the swamp, three or four feet wide, commencing at the lower end; the mud should be all taken to the barn-yard for manure; let two carts be used; two men can dig and put the mud into the cart as fast as a teamster can take it to the yard or compost heap; and by digging a good channel by the edge of upland, all of the springs are cut off, and the meadow or swamp will become almost dry, and the muck will be worth enough to pay for all of the labor.

After the side or shore ditches are dug and the water taken off from the fountain, then if the swamp or meadow is fit to cart on, a ditch may be dug through the centre and the mud carted off; but if it is not fit for a team to go on, the mud should be thrown out of the ditch into piles, so that it will keep dry, and enable it to be got off in good sledding, when the meadow is frozen, in the ensuing winter. If that does not drain sufficient, small ditches may be made from the shore ditches to the centre ditch, from one to two feet wide, filled with brush, covered over with mud. After this is done, most meadows or swamps will be dry enough in the summer to plough or harrow in herds grass seed.

If the mud is deep and there is not consistency enough, it would be well to cart on sand or gravel, if it is to be had without carting too far. But most of the swamps or low lands can be reclaimed without anything being done except draining and breaking up the soil and sewing in grass seed. In all cases all bushes and wild grass roots must be totally destroyed, which can easily be done either by ploughing or digging in the fall, and the winter will kill them (the roots;) then next summer harrow or hoe in the grass seed with oats, and a good late crop of fodder will be sure and safe The next season there will be a good crop of English hay, from one to two tons to the acre, without manure, and this will continue until the wild grass returns; then it must be ploughed and dug over again, as it was in the first place. The ditches should be cleaned out when they get clogged within by mud or any other substance, so as in no case let the water become stagnant, for if the water is suffered to stand on low land, rushes and wild grass will always be troublesome.

The ditching can be done either in the summer, fall or winter. When the mud is deep, the winter is the best time, as the team can go on better then, without injury either to the cattle or meadow, unless there is too much water; in that case the mud must be thrown out in the fall, and be carted off in the winter. By doing this the soil will be returned to the high land from whence it has been washed down, enriched with rotten wood, decayed leaves, and other vegetable and mineral substances, which have mixed together, to make the best of compost if mixed with lime and barn-yard manure, well dug over. Yours, &c., S. A. Shurtleff.

Spring Grove, Feb., 1851.

To Cleanse the Hair.—It is recommended to use a little soda in the water instead of soap.

For the New England Farmer.

EXPERIMENTS WITH PERUVIAN GUANO AND BARN COMPOST.

MR. COLE:—Having several years ago experimented with Guano (of such quality as could then be procured,) with results unfavorable to the article as a fertilizer, it was with little faith, and that founded principally upon the great reputation of Peruvian Guano, that we undertook the following experiments.

The Guano employed on this occasion was obtained directly from Peter Harmony Nephews, of New York, Peruvian government agent for the sale of it. We were thus satisfied of its genuineness. The experiments were conducted with care, and their results much surprised us.

One part Peruvian Guano and three parts of dry loam, constituted the Guano compost mentioned below.

FIRST EXPERIMENT.

On the first of September, 1849, upon land in good tilth, we sowed rye broadcast, (intended for soiling in the Spring,) at the rate of three bushels to the acre. The first of April following its appearance was unpromising and sickly, insomuch, we feared it might prove a failure.

April 8th, 1850.—We applied to a portion of the field, Guano compost, at the rate of three hundred and twenty pounds of Guano, (value seven dollars) to the acre. The ground was moist the snow having just disappeared. In a few days the beneficial effects of the Guano were manifest. Those portions of the field to which it had been applied becoming greenest, tallest and thickest, which characteristic they maintained to the end of the season.

May 28th.—We cut green one square rod of Guanoed rye and another square rod of unguanoed, lying side by side, and weighed them carefully,

Weight of Guanoed square rod, -	105 lbs.
" Unguanoed, - - -	60 lbs.
Return for Guano applied, per rod, -	45 lbs.

a gain of more than two-thirds.

July 23d.—We reaped at maturity one square rod of guanoed rye, and the same of unguanoed, side by side, and weighed the bundles.

Weight of Guanoed bundles, - -	44 lbs.
" Unguanoed, - - -	35 lbs.
Gain for Guano, - - - -	9 lbs.

In September, we threshed these bundles and weighed the grain.

Weight of Guanoed grain, - -	16 lbs.
" Unguanoed, - - -	10 lbs.
Gain in grains per rod, - - -	6 lbs.

A gain of six pounds of grain in one rod, is equal to sixteen bushels to the acre, calculating fifty-eight pounds to the bushel. Valuing rye at eighty cents a bushel, these sixteen bushels are worth twelve dollars and eighty cents. Valuing rye straw at seven dollars a ton, the three pounds per rod, (see difference between six and nine in the two tables above,) or four hundred and eighty pounds per acre, are worth $1,50. Thus we have,

Value of 16 bushels of rye, - -	$12,80.
" 480 pounds straw, - -	$1,50.
Return for seven dollars worth of Guano,	$14,30

SECOND EXPERIMENT.

This was made on grass. The land had not been ploughed for many years, nor manured for three years, but was moderately fertile.

April 1st, 1850.—We applied the Guano compost to a portion of this grass, at the rate of three hundred and twenty pounds of Guano (value seven dollars) to the acre. Along side, at the same time, we top dressed another portion with barn compost (cow droppings and dry peat, equal parts, well composted in the barn) in the proportion of sixteen loads to the acre, valued $1,50 per load, or twenty-four dollars for the sixteen loads. The grass on the guanoed portion soon surpassed that on the top dressed portion in verdure, became tallest and thickest, and remained so until mowed.

July 14th.—We mowed a square rod of each of these portions, side by side, and on the 16th weighed the products. They were only two-thirds dry, owing to wet weather.

Weight of Guanoed rod, - - -	62 lbs.
" top dressed, -	42 lbs.
Gain by Guano in one rod, - -	20 lbs.

Nearly fifty per cent. greater yield per acre with seven dollars worth of Guano, than with twenty-four dollars worth of barn compost. The aftermath was also greenest and thickest on the guanoed portion.

THIRD EXPERIMENT.

This was also made on grass. Land rather light and dry. It had been stocked to grass four years. and had not been manured for three years.

April 11th, 1850.—We applied Guano compost (three hundred and twenty pounds, or seven dollars worth of Guano to the acre,) during a light fall of snow.

July 16th.—Mowed two square rods side by side, (one had been guanoed, to the other nothing had been applied,) and weighed them green.

Weight of Guanoed rod, - -	60 lbs.
" Unguanoed, - - -	32 lbs.
Gain by Guano per rod, - -	28 lbs.

Nearly one hundred per cent. gain, aftermath green and thick.

FOURTH EXPERIMENT.

Also on grass. A border of low meadow which had been valueless, was ploughed in 1848, and sowed down to grass the 1st of September, 1849. Before sowing down, gravel had been scattered upon the surface, and barn compost at the rate of thirty loads to the acre, had been spread and harrowed in.

April 12th, 1850.—Applied Guano compost, (three hundred and twenty pounds of Guano to the acre,) to a portion of this border.

July 22d.—Mowed two square rods, side by side, and weighed green grass moist with dew.

Weight of Guanoed rod, - -	115 lbs.
" Unguanoed, - - -	62 lbs.
Gain by Guano per rod, - -	53 lbs.

Nearly one hundred per cent. The straw was fine on the guanoed portion, and the aftermath much the heaviest, some of the herds grass coming to maturity a second time

FIFTH EXPERIMENT.

This was made on Indian corn for soiling. Land in good tilth.

June 6th, 1850.—We ploughed under the whole field, barn compost at the rate of thirty loads to the acre, and harrowed deep.

June 8th.—Furrowed deep for planting corn in drills. Into a portion of the burrows we dropped barn compost at the rate of six loads to the acre, (value nine dollars); we then dropped Southern corn at the rate of two and half bushels to the acre and covered. Into another portion of the furrows we strewed Guano compost (three hundred and twenty pounds of Guano per acre,) covered it lightly with earth, then dropped Southern corn at same rate as above, and covered.

June 16th.—The guanoed rows were well up, the manured rows scarcely visible. During the whole season the guanoed rows kept the lead and excelled the manured rows in verdure, height and size of stalks. Two heavy gales of wind in July prostrated the whole field. The guanoed portions were the most injured, and about the middle of August before the stalks had attained their full size we were obliged to cut them. We weighed, green, a square rod of each of the rows, side by side.

Weight of square rod of Guanoed rows,	450 lbs.
" Manured, - - -	365 lbs.
Gain for Guano per rod, - - -	85 lbs.

Several other similar experiments were made, some of which showed even more surprisingly the effects of Guano, but these are the only ones sufficiently complete to publish.

They all confirm the great reputation of Peruvian Guano. The value of this substance compared with other fertilizers cannot at present be determined, but it may be considered the cheapest in use.

President Fillmore, in his late message to Congress, draws the attention of that body to the Peruvian Guano trade, as a subject of importance to American Agriculture.

The annual consumption in the United States, is fifteen thousand tons, the demand principally for the Middle States. Many worn out plantations in that section have been made productive by Peruvian Guano.

Were this agent to be more extensively employed in New England, it no doubt would yield abundant returns, for it is peculiarly qualified to fertilize her cold and exhausted soil. If Peruvian Guano has failed, in some hands, it has arisen probably from want of knowledge or care in the use of it. It is also notorious that spurious and worthless articles are sold for Peruvian Guano.

These experiments will be continued and their results communicated to the public.

JOSIAH KEENE.

North Providence, R. I., Feb., 1851.

REMARKS.—We have accounts of various results from the use of Guano. In some cases it has been highly profitable, in others it has produced no perceptible effect. As suggested by our correspondent, we havo no doubt that Guano has often been used injudiciously, and frequently a spurious kind has been obtained, for a great deal of Guano sold is adulterated. In addition to these principal causes of failure, the season is sometimes unfavorable from drought, and occasionally there is a want of adaptation of the manure to the soil and crop.

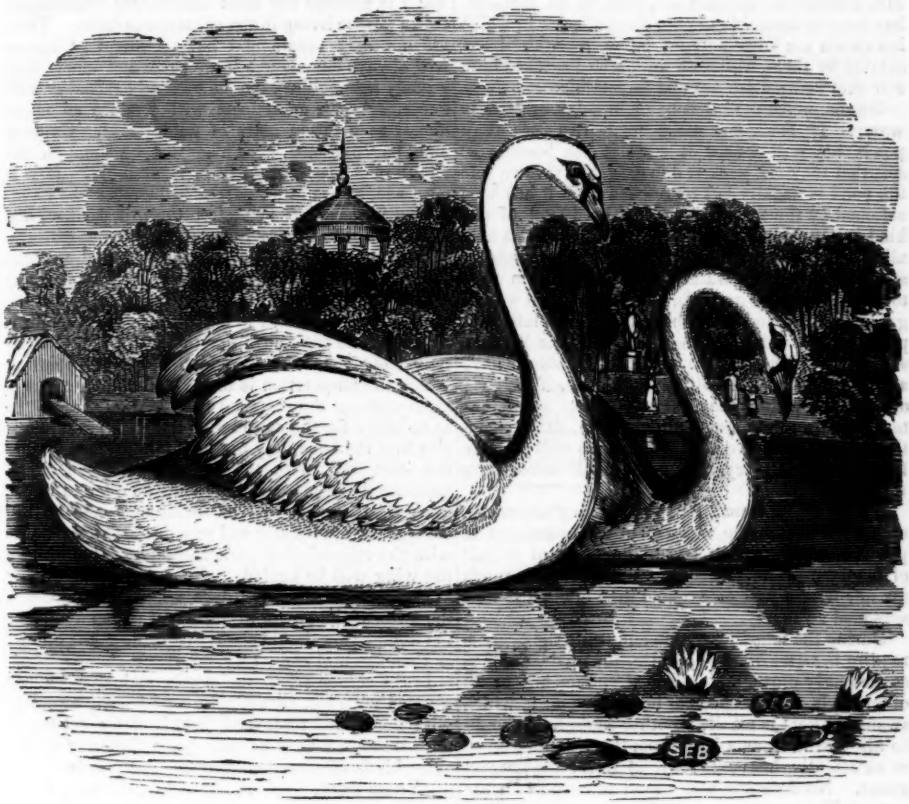
We trust that some cultivators will persevere in their experiments until the use of Guano is reduced to a system, and its just value ascertained, for it is highly desirable that we have our resources for fertilizers enlarged, and that we have some manures that can be had in abundance and are profitable so as to be convenient in transportation and application. We advise experimenters on Guano to be particular, and note the exact results, as Mr. Keene has done. Let us have something more than vague guessing.—ED.

REDUCING THE FOOD OF CATTLE BEFORE GIVING IT.

As I have just concluded the experiments you wished, I hasten to forward you the results, which are as follows:—Two horses in good health, in daily work, and as nearly as possible equal in size and age, were selected for the experiment. They were each allowed 5 lbs. of oats, 42 lbs. per bushel, and a sufficiency of good hay, of which they consumed about 17 lbs. per diem each horse. The only difference in the feeding consisted in one horse having the oats thoroughly crushed, and the other being allowed the oats uncrushed. On the fourth day of the above mode of feeding, the solid excrements of each horse were examined. 100 parts of the dung from the horse fed on crushed oats were found to be deprived of all the nutritious matter contained in the food, and to consist of woody fibre, mixed with the animal secretions and some salts; while 100 parts of the dung from the horse fed on uncrushed oats, were found to contain 1-4 per cent. of nutritive matter, consisting of starch and gluten, which had not been acted on by the stomach, mixed with the ordinary constituents of the solid excrements of the animal—this arising from the inability of the horse to perform perfect mastication, and must vary with circumstances, such as age and rapidity of feeding. The same horses were then fed with cut and uncut food, consisting of hay cut into chaff, and hay uncut. At the expiration of the third day, the excrements were examined, but no chemical difference in their composition was detected; the food, in both instances was found to be equally exhausted of its nutritive matter. The shorter period occupied by the horse in filling its stomach, and consequently greater amount of rest obtained, and the means of mixing food and preventing waste by cutting it into chaff, requires no observation from me, but will be material points in this mode of feeding.

A. GYDE.

AMERICAN YELLOW BIRD.—This bird is very common in the middle States, and partakes much of the nature of the Canary. If placed near a Canary they will acquire many of their notes. It should be an old established singing Canary, otherwise they will take the Yellow-bird's song to the detriment of his own. They should be fed with yellow and hempseed; two thirds of the former. A leaf of lettuce, cabbage, or a piece of apple is of service.



WHITE SWANS.

For the New England Farmer.

WHITE SWANS.

Mr. Cole: — These truly splendid and most ornamental aquatic birds are but little known in the New England States. The species which is bred in confinement is the *Cygnus olor*, or mute swan. These birds have no voice or notes. The only sound they make is a hiss or rather a loud breathing. They are not domesticated, and can only be prevented from escaping by "pinioning," i. e., by amputating a part of one wing. They are migratory, and, like the wild geese, in the spring of the year they pass to the high northern latitudes to breed, and returning in autumn, pass the winter on the sea-coasts, and in lakes and large ponds, subsisting on the aquatic vegetation, seeds and insects.

When kept in confinement, swans thrive best in shallow and muddy ponds or sluggish and muddy streams. Ponds and streams of clear water do not suit them.

Swans are beneficial in consuming all decaying aquatic weeds, the spawn and larvæ of water insects. The green slime which is so unsightly in sluggish waters is favorite food for them. They eradicate water-weeds, and keep the waters in which they are confined free from them, and, by consuming all putrescent matter, prevent the generation of the miasma so deleterious to the human race.

Some writers have expressed a doubt whether swans would breed in the New England States on account of the severity of the climate. The habits of the swan and wild goose in freedom are alike. That wild geese do breed in confinement in the New England States no one doubts. Then, why will not swans do the same? That swans can, without difficulty, be kept at all seasons of the year, is abundantly proved by the experiments of Mr. John Giles, of Providence, R. I., and Mr. G. Thompson, of Bridgeport, Ct. These gentlemen have kept them for several years. Mr. Giles has had to contend with great difficulties,—Mr. Thompson is more happily situated.

Mr. Giles resides in the city of Providence. The land improved by him is composed of sand, so loose and porous that it is ever dry. A more forbidding and uncongenial situation for keeping aquatic fowls cannot easily be found. But few men would have attempted to have kept any aquatic fowls on such a place, much less, the extensive and varied collection possessed by Mr. Giles.

Swans, notwithstanding their indomitable love of freedom, sometimes exhibit much gratitude and affection for their keepers. Those belonging to Mr. Thompson, of Bridgeport, show these traits

towards their owner in an extraordinary degree. Mr. Thompson informed me, that, in no instance, has he ever been able to pass the enclosure in which his swans are kept without being recognized and saluted by them, although he has so disguised himself that recognition seemed impossible.

Swans prefer food that has lain a day or more in water. If fresh cut grass is thrown into their ponds they will not eat it until it has become so soft that they can suck it down; grain thrown into the pond is usually left untouched until it has been softened by the water. Dry and hard food of any kind is not agreeable to them. Swan keepers usually have boxes or troughs placed in the ponds or streams covered by water, into which, from time to time, is put the grain for the swans. All weeds, garden refuse, and vegetable offal thrown into their pond, will be eaten by them after it has been so soaked as to become soft. Should the swans have a brood of cygnets, it will be necessary, if the body of water in which they are kept is of small extent, to throw into the pond or stream, daily, quantities of grass and vegetable matter as well as grain for them, as the cygnets grow with astonishing rapidity.

Swans do not breed until the fourth year, consequently it is for the interest of swan-keepers to procure an old pair at triple the price of a pair of cygnets. The risk of loss by death is much greater with a pair of cygnets than of old and well seasoned swans.

During the breeding season and while the cygnets require the care of the old ones, the male swan is exceedingly cross, not only to strangers but to all other fowls. If the pond or body of water in which swans are kept is small, no other water fowl should be allowed in it, as a blow from the wing of a swan is sufficiently heavy to kill, at once, the largest goose. No domestic water-fowl can out-swim the swan. Two or more pairs of swans cannot be kept in the same enclosure.

At the commencement of the breeding season, a quantity of straw or coarse hay and small dry brush and sticks should be placed near the water frequented by the swans, to aid them in procuring materials for building their nest. If there are no trees or shrubbery on the borders of the stream or pond, a small house or rustic arbor should be made close to the waters' edge, in which the swans will build their nest. When the nest is commenced, it is dangerous as well as unwise to go near the swans. Do not on any account meddle with the eggs. The number usually laid by an old swan is from twelve to fifteen. The incubation lasts about six weeks. While the female is on the nest, the male is keeping guard, sailing backward and forward in short tacks, ready and willing to attack any and every thing that approaches, be it man, beast or bird. During incubation a liberal and constant supply of food should always be kept at the place where the swans have been usually fed, that the female may readily and quickly satisfy the cravings of hunger, and that there may be as little inturruption as possible of her labors.

The cygnets when first hatched are of a grey color, and do not acquire the snow-white plumage until more than two years old, neither does the knob become fully developed, nor does the bill acquire the bright orange color until they are nearly three years old.

A pair of swans accompanied by a brood of cygnets floating in a handsome well-kept sheet of water is perhaps the most ornamental appendages that a person living in the country can have. They are not only ornamental but lucrative. Cygnets will always command a large price and meet with a ready sale. They can be as easily raised as wild geese. A pair of cygnets will produce as much money as a dozen pairs of wild geese. Cygnets must be "pinioned." This must be done in the month of August, or early in September. If it is not done, in the latter part of September the swan-keeper will be left to regret their departure, and will learn that "delay *is* dangerous."

This operation is easily performed and without the loss of much blood. There are two places at which the wing may be severed, viz: the wrist and the elbow. The bird to be pinioned must be held firmly by the assistant, the operator after having pulled out the feathers which cover the joint at which the amputation is to be made, with a sharp knife will cut the skin and flesh beyond the joint so as to allow for the contraction of the skin and muscles that the bone may not be left bare, then finding the joint well, with the knife or a sharp chisel separate it, taking care not in any manner to injure the bone. The cygnet on being released will at once go into the water and remain for some hours with the injured wing immersed. In a day or two the wing will be healed.

Pinioning at the wrist does not entirely deprive the swan of the power of flight. I recommend that the amputation should always be made at the elbow, as then the bird cannot fly.

In the season when the ponds and streams are covered with ice, swans must be liberally supplied with water, and their food must be fully saturated with water, as they require more than any of the other kinds of ornamental or domestic birds.

Yours truly, S. Bradford Morse, Jr.

A WORD TO YOUNG MEN.

Wishing and sighing and imagining and dreaming of greatness, said William Wirt, will not make you great. But cannot a young man command his energies? Read Foster on decision of character. That book will tell you what is in your power to accomplish. You must gird up your loins and go to work with all the indomitable energy of Hannibal scaling the Alps. It is your duty to make the most of your time, talents and opportunities.

Alfred, King of England, though he performed more business than any one of his subjects, found time to study.

Franklin, in the midst of his labors, had time to dive into the depths of philosophy, and explored an untrodden path of science.

Frederic the Great, with an empire at his direction, in the midst of war, and on the eve of battle, found time to revel in the charms of philosophy, and feast on the luxuries of science.

Napoleon, with Europe at his disposal, with kings at his ante-chamber, and at the head of thousands of men, whose destinies were suspended on his arbitrary pleasure, found time to converse with books.

☞ "Cabbage," says the Edinburgh Review, "contains more muscle-sustaining nutriment than yan other vegetable whatever. Boiled cabbage and corned beef make fifty-two as good dinners in twelve months as a man can eat "

SIXTH AGRICULTURAL MEETING

AT THE STATE HOUSE, FEB. 19, 1851.

Mr. Proctor, Pres. of Essex Agricultural Society, in the Chair,—Subject, "The Best Cattle for New England."

The chairman remarked that he was called upon unexpectedly to preside, and was not prepared to address the meeting. He announced the subject for discussion, and said that it was of great importance, as some farmers gave most of their attention to cattle. As to our native cattle, some contended that we had none, as all had been originally imported; but they might as well say that we have not a native race of men, possessing peculiar properties. Now shall we improve our native cattle, or reject them and take the foreign breeds? But few of these foreign cattle can be found in the country, and farmers cannot supply themselves with them without paying high prices. Col. Pickering, who was distinguished for correct observation, thought that our native cattle were the best for our climate and feed. They are good for the stall, for labor, and for ordinary purposes. The Durham breed is good where raised particularly for beef.

Mr. Asa G. Sheldon, of Wilmington, said that for oxen and beef, the Durhams were very good, and a cross with them and the native, was good. Their beef was not superior, but they produce more beef according to the feed than other breeds. He never saw a good cow of the Devon breed, and for labor, they are rather deficient; they want putting up in the team. He preferred a more active race for labor. Our native cows are as good as any. He had not generally been successful in crossing them with the Ayrshire. He has one very superior cow from this cross. Finally he cared nothing about the breed; he would choose an animal for its good points, as he would judge of a piece of machinery; no matter who made it; he should choose it for its construction and workmanship. A cow should have a long tail, hazle eyes, small flat horn, full bosom, good chest, back ribs wide apart, bag well forward and dark, not long, nor long teats. He had a cow with long bags and teats, and when laying down she so pressed her legs and feet on her teats that they were so much injured that he sold her less by $25; and after he sold her, she was injured in this way so that she cut through the side of the teat.

Dr. Hogan, of Boston, said that it was necessary to have cattle adapted to the climate. He thought that of the foreign breeds the Welsh cattle were best adapted to New England. They are of a medial size. Mr. Prentice, near Albany, has some fine imported animals of large size, but in that region the soil is more fertile than in New England. Large cattle will fail on short feed. Another good breed is the Polish.

Prof. Fowler, of Amherst, would make some suggestions as to the failure of foreign breeds. Some fine animals had been imported at great expense, but they had not answered the expectations of their owners. Men generally degenerate by colonization, so it may be with cattle; there may not be suitable adaptation to climate, feed, soil, &c. But by a long course of years, a foreign breed may be improved even on our own soil, where at first they degenerated. In this way our native race may have been improved after they become acclimated. He remarked that long since some fine foreign cattle were brought to Guilford, Ct., where the race had continued pure, and they were fine animals. They resemble the Devons.

Hon. Mr. Brooks, of Princeton, said that a great improvement had been made in the cattle of that county by a bull imported by Gov. Gore about 50 years ago, which resembled the Hereford race. He remarked that the Herefords and Devons were races and would produce their like, but the Durhams, Ayrshire and others were only breeds, and their progeny often differ from the parents. For nearly 30 years he had raised heifers from the finest native cows, and he had crossed these with the Ayrshires, and he generally got excellent milkers. Durhams are not so good for milk as the Ayrshires. The Devons are not so good milkers, nor so good for work as the Ayrshires. The Ayrshires are hardier and better feeders (less difficult about their food) than the Devons and are more spirited. Mr. B. then presented a memorandum showing the expense of raising heifers, by which it appeared that he could sell them so as to make 16 per cent. profit on his investment. By keeping them till four years old, the income on the cow paid all the expense of raising her, excepting $10 53. Some of his neighbors got an income of $50 on each cow, making a clear profit of $25. In answer to a question, he said that if heifers came in at two years they were not so large, but will give more milk, and be more profitable than those that come in at three.

Hon. Mr. Sprague, of Duxbury, lived near Daniel Webster, and that gentleman has no good milkers, though he has various breeds of foreign cattle. But he has fine oxen.

Mr. Brooks said that he did not raise heifers from good milkers, but from a male which is from a good milker. The good properties of the female descend through the male, and his progeny will exhibit the traits of the grand-dam.

Hon. Mr. French said that it was an object to get a breed adapted to the farm. He found that the heifers he raised were worth more than those he bought, because they were at home, while others were strangers. He had had the Durhams, and after trying them four years, he sold them. As milkers, they were a failure. He suggested that we had not the true Durham stock, as it was not like that which he had seen in other States.

The Ayrshires are hardy, and many do well with a cross, but the pure breed do not give a large quantity of milk. He preferred the North Devon breed; as he can get as much milk from them as from the Durham or Ayrshire.

Colonel Newell, of West Newbury, said that at Lexington the Ayrshires gave more milk than the Devons. The reason that English stocks fails in this country, is, that we do not give them good feed. The bull imported by Admiral Coffin, had made a great improvement in our stock. He had raised good cows by a cross of the Ayrshires with the natives. The Ayrshires give better milk than the Durhams. In his section were a cross of the Aldenny; six quarts of the milk would make a pound of butter.

Mr. Brooks, of Boston, was pleased to hear the quality of the milk of the Ayrshires spoken of. They do not give a large mess, but it is rich. Cows that give much do not give rich milk.—Cattle should be adapted to the climate; they may be brought from Devonshire, Eng., where they graze the year round, to our cold climate, and fail for want of hardiness.

The chairman remarked that the Polled or Hornless race of cows were superior, twenty years ago; some were brought to Danvers from New Hampshire, and they are among the best cows.

Hon. Dr. Gardner, spoke in favor of the hornless cows, as he had found them to be superior. He presented a letter from a gentleman of North Carolina, ordering some of this breed, as he did not consider others worth a transfer. He considered them the best of all cows. He spoke of their being free from the barbaric appendage called horns; and Dr. Gardner named this as an advantage. Mr. Brooks said that it was an easy affair to have hornless cattle, by shaving off the horns when they were calves.

Dr. C. T. Jackson, will preside and address the next meeting. Subject for discussion—"The cultivation of Corn and other Cereal Grains, and the most successful method of protecting them against the depredations of noxious Birds."

For the New England Farmer.

THE ELEVATION OF AGRICULTURE.

Mr. Cole:—Every middle-aged man must have observed, that within the last twenty or thirty years, farming—in this country, and perhaps in the whole civilized world—has made more rapid advances towards the goal of perfection, than in any other equal length of time. Farming has become elevated in every sense. In fact, it has outstripped many other professions; and if ever it deserved the name of "drudgery," such an appellation would now be slanderous. Professions have the power of elevation and advancement in proportion as they demand *thought;* for thought is elevating and will always command respect. Divinity, Law and Physic—the three learned professions, as they are called—rank high because their successful prosecution requires unremitted and profound thought. Callings which do not require rigid application of the mind, will not, in the nature of things, rank high unless they are lucrative, which is not generally the case. In a word, wealth and intelligence command respect, and always will, till some new principle holds sway among men—of which they have never yet had a glimpse.

The field of chemical investigation is as broad as the universe, and only partially and imperfectly explored. Although chemistry is the most abstruse and extensive of the sciences, the curious and useful facts which it develops will always make it an inviting study. Since agricultural chemistry has become generally to be applied to the cultivation of the soil, farming has made a great advance, not only in its power of augmenting the public good, but necessarily in the estimation of all sensible people. Farmers have become more thinking men than formerly; they seem to take more pride and interest in their farms—as what they study in theory they naturally feel a desire to put in practice. Indeed, the study of natural history gives life and interest to every object around us. Not only have farmers grown wiser and improved their vocation, but scientific men have engaged in the calling, and by a united effort, agriculture has been raised from its former humble position, and dignified by a place among the sciences. Agriculture, which may command the highest thought, will any one call drudgery, who would not make a drudgery of everything? True, there are many unpleasant and laborious duties to perform, but cannot the same be said of most other callings? I speak from experience, when I say that farming is generally unpleasant to country-bred young men, as they are naturally thoughtless of their true interest till years give them wisdom. Hence they flee to the city in their youth, but at a more thoughtful age a farm is a pleasant object of attention.

In still another sense besides skill, is farming vastly different from what it was in the days of our forefathers. The farmers, less than a century ago, only had to feed and clothe themselves; now they feed others while others clothe them. In this respect a great revolution has taken place, which has tended to elevate agriculture. While the ancient farmers sought only a livelihood by it, many of the present have engaged in it with an additional view of making money. Hence it is more inviting. Cities and large manufacturing villagers have sprung up with the rapid increase of population, and great demands for the product of agriculture have been made. These demands have been profitably met, and those who lived remote from a good market, have been brought near by the extensive system of railroads, which have pushed them into every part of the country.

The fostering care of government tends greatly to elevate and improve not only agriculture, but all other branches of industry; and if "agriculture is the nursing father of the State," as Vattel asserts it to be, how important is it that this great interest of a country should be attended to! It has been said of Spain, that it is the most fertile and the worst cultivated country in Europe—owing to the many restrictions and taxations which there discourage the husbandman.

With a paragraph from Vattel's Laws of Nations, written nearly a contury ago, I close the subject without further comment.

"Another abuse injurious to agriculture is the contempt cast upon the husbandman. The inhabitants of cities, even the most servile artist, and the most lazy citizens, consider him that cultivates the earth with a disdainful eye; they humble and discourage him; they dare to despise a profession that feeds the human race—the natural employment of man. A little insignificant story-maker, or a tailor, places far beneath him the beloved employment of the first consuls and dictators of Rome! China has wisely prevented this abuse; agriculture is there held in honor; and to preserve this happy manner of thinking, every year, on a solemn day, the emperor himself, followed by his whole court, sets his hand to the plough and mows a small piece of land. Hence, China is the best cultivated country in the world; it nourishes an innumerable multitude of people, that at first appears to the traveller too great for the space they possess."

D. W. L.

For the New England Farmer.

CULTIVATION OF GRASSES.

Mr. Editor:—When I saw the subject announced for discussion this evening, I cast my thoughts about for some ideas pertinent to the subject. I presume you have had many more pertinent offered—but as it is the duty of every one to throw in his *mite*, I give you mine, with liberty to use more or less of it, as you may think proper. It contains nothing new—but it may present some views that have not occurred to every one. A child will sometimes propose questions that will puzzle learned doctors to answer.

The cultivation of the grasses occupies a large portion of the farmer's labor in Massachusetts. Any increase of quantity with less labor, would be an object quite desirable. On rich soils properly managed, there is no difficulty in securing abundant crops; generally proportioned to the manure applied. The question is, how can good crops be secured on shallow or moderately rich soils.

A striking instance of successful culture of this class came under my observation, within the last ten years, on the farm of the late D. P. King. The field referred to was situated on a plain adjoining an extensive peat meadow. Mr. King adopted Mr. Phinney's mode of turning over the sod in autumn, applying a full coating of compost manure, and then by the harrow and roller, inserting the seed in autumn. After several repetitions of this mode of culture, he found his best mowing land on this shallow soil. On land that used to yield a crop scarcely worth cutting, he mowed about two tons to the acre. I mention this as an experiment worthy of notice, and one affording encouragement to those who are under the necessity of cultivating soils of ordinary quality—such is more than half the mowing lands that come within our observation. Mr. King was better satisfied with this experiment than any other on his farm.

Perhaps there is no part of the earth, where more attention is paid to the cultivation of grass than in some parts of Essex county. It has come to my knowledge from careful inquiry, that 200 tons of hay are usually brought to the Boston market, by the teamsters of Ipswich. It may be that other neighborhoods yield as much, but I am not informed of any that does. It is an object with those that grow this grass, to keep their lands as constantly in a condition to be mowed as possible. For this purpose, it has been practised by some, to harrow the land after the grass is mown; and sow a new crop of seed without disturbing the sod. How far this practice has succeeded, I am not advised—I know it has been tried. I have known other attempts to encourage the growth of the grass, by the use of a *subsoil plough*, by stirring the soil without turning it over; and then applying a top dressing of compost manure. That such an experiment may be beneficial, done under favorable circumstances, I have good reason to believe. For those who wish to keep their lands constantly in grass, it may be worthy of attention. Some of our best products of hay are obtained from the lands near the sea shore, where material is collected from the beach, and spread green upon the land. The effect of such dressings upon moist lands, is to produce a constant succession of abundant crops—say from 2 to 3 tons per acre, in favorable seasons.

Perhaps there is no part of farm labor that demands more attention, than the reviving of the feed of pastures. Ordinarily, 4 or 5 acres of pasture land are appropriated to the feed of a single cow—when with a little attention, one-half this quantity would support them better. A striking instance of this kind has come within my notice, on the farm of Mr. John Stone, Jr., of Marblehead, who fed 4 cows on 5 acres, yielding an average produce of 1 1-2 pounds of butter per day, to each cow, for a period of three months. A particular statement of this dairy may be found in the transactions of the Essex Society for 1849—from which, as well as from all other experiments by Mr. Stone, much valuable instruction is to be gained. P.

February 11th, 1851.

For the New England Farmer.

THE CULTIVATION OF NATIVE TREES AND SHRUBS.

[*Continued from Page 47.*]

The Sweet Gum or Liquidamber has not, as yet, been discovered in Massachusutts, although Micheaux informs us, in his N. American Sylva, that it is first seen on the sea shore, towards the north-east, between Portsmouth and Boston. We have searched the eastern part of Massachusetts to find this tree, but have not as yet discovered it.

That extensive tract of forest in the eastern part of the county of Essex, known by the name of Cape Ann woods, has been supposed by some persons to contain the Liquidamber, and, indeed we should expect to find it here, if it is to be seen, as Micheaux asserts, between those two places. But after much search, it has not been found. Torrey, in his Botany of New York, says, the liqudamber is not often seen north or west of Albany, and we suspect that is about its northern limit, and if it should be hereafter added to the flora of Massachusetts, it will probably be found in that part of the State, adjoining New York. The Sweet Gum Liquidamber is so called from the Latin, *liquidum*, *fluid*, and *ambae*, amber; in allusion to the terebinthine fluid that exudes from the tree.

The Sweet Gum affords a liquid balsam, which when pure, is of the consistency of honey, of a yellowish color, of a pleasant balsamic odor, which is seldom used in this country, but has a place in our medical botany. It is exported from Mexico, and has long been in use in France to perfume gloves.

The quantity of gum produced in this country from the liquidamber is quite small, except in its most southern parts. By boiling the branches, a small quantity can be obtained from the trees, growing in the Middle States. The liquidamber is a very interesting and beautiful tree, with a height of seventy feet. It is distinguished for its dark green and shining star-like leaves, which are fragrant, when bruised, and in autumn, after the first frost, assume the most brilliant colors. It is found in moist woods and swamps, but it is said to accommodate itself to a dry soil.

The Sweet-scented Crab is a small tree, ten or fifteen feet high, and not to be found growing in a state of nature, in Massachusetts, but first seen at the north in the western part of New York, which is probably not far from its northern limits. It is an interesting tree in a garden, and is distinguished for its beautiful rose-colored flowers, diffusing a delicious odor all around, and its green fragrant fruit. It is propagated from seed, or by grafting it upon the stock of the cultivated apple tree.

The Persimon, American Date Plum, is found as far north as the southern part of the State of New York, and rises to the height of thirty feet. It is sufficiently hardy to withstand our winters, in a garden affording some protection, and produces a roundish fruit of a reddish color, very astringent, until bitten by the frost, when it becomes quite soft and luscious, like a plum. It is a dicecious tree, bearing its male and female flowers on different plants. One tree in the southern States often yields several bushels, and Torrey says the ripe fruit, after having been frozen and thereby rendered palatable, is often seen in the New York markets.

The Papaw is a small tree, ten or twelve feet in height, found in the southern part of New York, which appears to be its northern limit. It is distinguished for its long and narrow leaves, and its smooth, finely polished silver-grey bark. Its fruit, when ripe, is three inches long, and one and a half thick, of a yellowish color, and esteemed by some persons. It is said that it will grow in Massachusetts, in a sheltered garden.

The Buffalo Berry, although found in the western States, is perfectly hardy in Massachusetts, and would probably succeed farther north. It was sent from Missouri several years since, by Mr. Nuttall, to the late Messrs. Winship, of Brighton, who first cultivated it, and brought it into notice. It is a small tree, desirable in a garden from its early flowering, and in autumn for the rich clusters of red fruit completely covering its branches, of the size and appearance of currants. These berries, when touched by the frost, are palatable, and make a good preserve. The Buffalo Berry is found to be one of those few trees that are dicecious in its habits, and consequently it becomes necessary, in order to obtain fruit, to procure plants of the different sexes and plant them ten or fifteen feet apart. They can be obtained in the nurseries around Boston. The generic name of the Buffalo Berry is the Shepherdia Argentia; one other species is found in Vermont, the Shepherdia Canadensis, and was supposed by the late Mr. Oakes to be found in no other State in New England. We have it under cultivation, and do not discover any thing peculiarly interesting in it, This Buffalo Berry is found in the western States, and on both sides of the Rocky Mountain. It will grow in any soil or situation, and is produced by suckers from the roots or by seeds.

The Virgillia or Yellow Wood is a very handsome low tree found in Tennessee, with drooping racernes of white flowers, resembling in form those of the laburnum. It is found to be hardy in Massachusetts, and prefers a light sandy soil.

Danvers, Feb. 6, 1851. S. P. FOWLER.

[TO BE CONTINUED.]

Mechanics' Department, Arts, &c.

ARTESIAN WELL.

A Paris correspondent of the National Intelligencer says:—"The famous Artesian well at Kissengen, in Batavia, commenced eighteen years ago, and which it was feared would have to be abandoned as a failure, has just given the most satisfactory results. The town is located in a saline valley, nine hundred and eighty-four feet above the level of the Baltic sea. Last June the boring had reached a depth of eighteen hundred and thirty-seven feet, and several layers of salt, separated by a strata of granite, had been traversed, when carbonic acid gas, followed again by granite, was found. Finally, on the 12th inst., at a depth of two thousand and sixty-seven feet, perseverance was rewarded by complete success. A violent explosion burst away the scaffolding built to facilitate the operations, and a column of water four and a half inches in diameter spouted forth to the height of 98 feet above the surface. The water—clear as crystal—is of a temperature of sixty-six Fahrenheit, and is abundantly charged with salt. It is calculated that the annual product will be upwards of 6,600,000 lbs. per annum, increasing the royal revenue by 300,000 florins, after deducting all expenses.

TIMBER-PRESERVING WORKS.

The Rochester Democrat states that an establishment for *Payneizing* timber is to be erected in that city, and that Mr. Rice, one of the gentlemen engaged in the enterprise, is now in New York to procure the necessary machinery. The process of Payneizing is described as follows:—

The timber is first placed within the cylinder, and steam is admitted until both cylinder and timber (the former being hermetically sealed) are thoroughly heated. The steam within is then suddenly condensed by an application of cold water on the exterior of the cylinder, ejected from perforated pipes. A partial vacuum is thus formed, and a small portion of sulphate of iron in solution is thrown upon the timber from similar pipes within. A powerful air pump is then set to work and a vacuum of 27 or 28 inches is obtained. More of the solution is admitted to fill the vacuum so formed, and a force pump, with a pressure of 100 to 150 lbs. to the inch, is applied, and kept up for 15 or 20 minutes, to allow the solution to filter through the wood. The same process is repeated in order to infuse a solution of muriate of lime. The two solutions no sooner come in contact, than the one decomposes the other, forming sulphate of lime, an insoluble salt, which permeates the pores of the wood.

This method of preparing timber is in no sense an experiment. The English Government has

adopted it to a great extent, in dock-yards; and many public works in England are constructed in whole or in part of Payneized timber. For plank roads it must be invaluable, as well as in ship-building, and other branches of the mechanic arts where the chief value of wood consists in its durability.

BROWN'S HARNESS MACHINE.

Darius C. Brown, Esq., of Lowell, Mass., of the firm of D. C. Brown & Co., has, says the Boston Cabinet, been engaged more or less, for some five years or thereabouts, in study and experiments, having reference to the perfecting of a machine for making loom harnesses. Mr. Brown's machine is very simple in construction, of comparatively trifling cost, and is operated by the small power of a lady's foot upon a pedal, while she is tending it. At one and the same time, a lady tends the machine, as it is making the harness, and gives motion to its operation. It is calculated, from known data, that harnesses can be made upon this machine as good as those made by hand, and at a considerable reduction of price. The firm, now using the machine, furnish harnesses, made of Merrimac twine of various sizes, at two and one-fourth cents per forty eyes or beers. As the machine makes harnesses from twine instead of yarn, it is readily seen that it differs essentially from Vogle's machine. And though the harness is made of twine, yet the eyes are made without knots, above and below them, in this respect, resembling the harnesses coming from Vogle's machine, and not resembling those made by hand.

SMITH'S RAILROAD ALARM.

Mr. Charles A. Smith, of Batavia, has invented an apparatus for ringing an alarm bell upon railroads, by which an alarm can be given at a station, a curve or crossing, when the cars are a mile distant from the point. By this means collisions may be prevented at places where two opposite trains cannot be seen by each other until too late to check the speed. This is effected by placing a spring so that the wheels of the cars pass over it. To this spring is attached a wire which may be extended for any distance upon poles, like the telegraph wires, the opposite end from the spring being attached to a bell, which will give the alarm. A model of the invention may be seen at the store of R. P. Orchard and R. W. Whitehead, in the Waverly Block, who have become the patentees. It has been examined by many gentlemen connected with the railroads, who are much pleased with its operations. The patentees are about to put one of the machines in operation upon the Rochester and Buffalo road, a short distance west of this city. It is simple and effectual, and will no doubt come into extensive use.—*Roch. Dem.*

☞ The Flax manufacture seems likely to receive an important impetus. Mr. O. S. Leavitt informs the Tribune, that flax can be procured in the unrotted state, the very condition required for producing fine linen at least cost, for about two cents per lb. Then, by the use of his machinery, flax can be broken out for about two cents per lb. more, producing clean unrotted flax for less than four cents per lb. Consider that cotton in its raw state costs from 14 to 15 cents per lb.—*American Artizan.*

Ladies' Department.

WAS IT PROVIDENCE?

BY MISS SEDGEWICK.

Take, for example, a young girl, bred delicately in town, shut up in a nursery in her childhood—in a boarding-school through her youth, never accustomed either to air or exercise, two things that the law of God makes essential to health. She marries; her strength is inadequate to the demands upon it. Her beauty fades early. She languishes through her hard offices of giving birth to children, suckling and watching over them, and dies early. "What a strange Providence, that a mother should be taken, in the midst of life, from her children!" Was it Providence? No! Providence has assigned her three-score years and ten; a term long enough to rear her children, and to see her children's children; but she did not obey the laws on which life depends, and of course she lost it.

A father, too, is cut off in the midst of his days. He is a useful and distinguished citizen, and eminent in his profession. A general buzz rises on every side, of "What a striking Providence!" This man has been in the habit of studying half the night, or passing his days in his office and the courts, of eating luxurious dinners and drinking various wines. He has every day violated the laws on which health depends. Did Providence cut him off? The evil rarely ends here. The diseases of the father are often transmitted; and a feeble mother rarely leaves behind her vigorous children.

It has been customary in some of our cities, for young ladies to walk in thin shoes and delicate stockings in mid-winter. A healthy, blooming young girl, thus dressed in violation of Heaven's laws, pays the penalty; a checked circulation, cold, fever, and death. "What a sad Providence!" exclaim her friends. Was it Providence, or her own folly?

A beautiful young bride goes, night after night, to parties made in honor of her marriage. She has a slight sore throat, perhaps, and the weather is inclement; but she must wear her neck and arms bare; for who ever saw a bride in a close evening dress? She is consequently seized with inflammation of the lungs, and the grave receives her before her bridal days are over. "What a Providence!" exclaim the world. "Cut off in the midst of happiness and hope!" Alas! did she not cut the thread of life herself?

A girl in the country exposed to our changeful climate, gets a new bonnet instead of getting a flannel garment. A rheumatism is the consequence. Should the girl sit down tranquilly with the idea that Providence has sent the rheumatism upon her, or should she charge it on her vanity, and avoid the folly in future?

Look, my young friends, at the mass of diseases that are incurred by intemperance in eating or drinking, or in study, or in business; also being caused often by neglect of exercise, cleanliness, pure air; by indiscreet dressing, tight lacing, &c., and is quietly imputed to Providence! Is there not impiety as well as ignorance in this? Were the physical laws strictly observed from generation to generation there would be an end to the frightful diseases that cut life short, and of the long list of maladies that make life a torment or a trial. It is the opinion of those who best understand the physical

system, that this wonderful machine, the body, this "godly temple," would gradually decay, and men would die as if falling asleep.

NOTICES OF PUBLICATIONS.

From Hon. J. W. Proctor, President, of Essex Agricultural Society, the Transactions of that Association for 1850. It contains the annual address, reports of the committees, statements of applicants for premiums, assays, &c., forming a large collection of valuable matter, from which we shall make selections for publication.

From Hon. Marshal P. Wilder, President of Norfolk Agricultural Society, the Transactions of that Society for 1850. It is of the same general character as to subjects as the preceding work, and it will also receive further attention.

An Introductory Lecture at the Opening of the Female Medical College, of Pennsylvania, by J. S. Longshore, M. D. The author of this address, in his preliminary remarks, speaks very judiciously on the various *systems*, *isms* and *pathies* of the day. He then proceeds in an able and interesting way to show that the healing art should be, in part, in the hands of females. As public attention is directed to this subject, there will be a strong feeling in favor of female physicians, for this feeling is founded in reason and nature, and it must prevail as the subject becomes investigated.

The Farmer's Guide is a reprint from the popular work of Stephens on farming, with notes by J. P. Norton, Professor of Scientific Agriculture in Yale College. This work is illustrated by numerous engravings. It is very instructive. Fetridge & Co., Boston.

New Guide for Travellers through the United States, containing the Railroad, Steamboat, Stage and Canal Routes, and the Population of the different States, Territories, and principal Cities and Towns in 1850, accompanied by a map. Boston: J. Haven, 86 State Street.

Diary from Rev. Solomon Spittle. This little work illustrates the great evils from the disgusting habit of using that nauseous weed—Tobacco.

Western Horticultural Review. This is a monthly periodical of 48 pages to each number. It is very ably conducted by Dr. John A. Warder, and embellished with handsome engravings. In point of valuable matter and the execution of the work, it ranks with our first horticultural journals. Will the publisher please send us number one?

Rev. Aaron Foster's Address to the farmers of the western part of Franklin county. It is a very interesting and spirited production.

Address of Gen. Lewis Cass, before Kalamazoo Agricultural Society, Oct., 1850. This is a very able address, evincing the extensive research and close investigation of a nice observer.

ACKNOWLEDGMENTS.

From Henry A. Willis, Fitchburg, a box of Willis's Russet Apple. They originated in Sudbury, Mass., on the farm of Hopestill Willis, hence their name. Mr. Willis says that this variety is a good grower and good bearer, but it bears mostly in even years. They generally keep till April or May. This apple is of medial size; rather flat; very fair in appearance; of a yellow russet color; the quality is very good, having a pearmain flavor.

From Rev. L. Matthews, Cornwall, Vt., specimens of fine apples; rather large; roundish; yellow with red cheeks. This fruit is very fair and handsome, and the quality good. Such fruit would bring a good price.

From Edwin Stanton, Essex, Vt., a box of fine apples. The tree bears every year, and the fruit keeps till June. This fruit is large; roundish-conical; bright greenish yellow, with numerous large brown specks. It is of a mild pleasant flavor. The fair appearance of this fruit, and its good quality, would make it a good article in the market. We do not know the name.

From John Wilson, Bradford, Vt., russet apples, a native of that place. It bears largely every year, and the fruit keeps into spring. The form of this fruit is the same as the American Golden Russet; the size is smaller; the quality is good, but not quite equal to the Russet, which is noted for its tenderness and excellent flavor.

From John Raynolds, Concord, (one of the publishers) some fine specimens of Baldwin Apples; also English Russet Apples; but this is not the English Russet of the books, but a russet from an English tree set in Concord more than 100 years ago. This fruit is large; roundish, slightly conical; mostly brown russet, and occasionally patches of yellow, and red or scarlet, seldom a red cheek. The flesh is very tender, mild and pleasant.

☞ The New England Farmer is published *every other* Saturday by John Raynolds and Joel Nourse, at Quincy Hall, South Market Street, Boston.

Terms, $1,00 per annum in advance.

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